



# An Arduino-Based Women Safety Network Model

SIDDAM KAVITHA

M.tech Student, Department of ECE (Embedded Systems),  
Kasireddy Narayan Reddy College Of Engineering and  
Research, Abdullapur (V), Hayathnagar (M), R.R (Dist).  
TS .

L.PRATHIMA

Asst. Professor, Department of ECE  
Kasireddy Narayan Reddy College Of Engineering and  
Research, Abdullapur (V), Hayathnagar (M), R.R (Dist).  
TS .

**Abstract:** An embedded product is a mix of hardware and software to carry out a dedicated task. A few of the primary devices utilized in embedded goods are Microprocessors and Microcontrollers. Microprocessors are generally known as general purpose processors because they simply accept the inputs, process it and provide the output. In comparison, a microcontroller not just accepts the information as inputs but additionally manipulates it, interfaces the information with assorted devices, controls the information and therefore finally provides the result. The Gps navigation and GSM based women home security system using Arduino Controller Microcontroller is definitely an exclusive project that may provide to safeguard women based on the instructions provided by the above mentioned stated microcontroller. This project uses controlled 5V, 500ma power. Unregulated 12V Electricity can be used for relay. 7805 three terminal current regulator can be used for current regulation. Bridge type full wave rectifier can be used to rectify the ac creation of secondary of 230/12V step lower transformer.

**Keywords:** Embedded System; Arduino Controller; GSM & GPS;

## I. INTRODUCTION

Within this application we're maintaining a switch. Within the worst situation whenever we press switch in those days with location place will be delivered to the android mobile that is signed up for the memory IC is deserving of a note like help needed. Gps navigation gives just the longitude and latitude values but by utilizing Android application within the mobile you can obtain the location name where the content continues to be sent. The controller takes the switch since its input i.e. when some threat has happened one have to press that switch and also the controller helps make the GSM module to message towards the pre-stored number [1]. In this manner the concerned person knows the location plus they can save the candidate. With an array of serial communications interfaces, they're also very perfect for communication gateways, protocol converters and embedded soft modems in addition to a number of other general-purpose applications. An embedded product is a pc system made to perform one or perhaps a couple of dedicated functions frequently with real-time computing constraints. It's embedded included in an entire device frequently including hardware and mechanical parts. By comparison, an over-all-purpose computer, like a pc (PC), is made to be flexible and also to meet an array of finish-user needs. Embedded systems control many devices in keeping use today. Embedded systems are controlled by a number of primary processing cores which are typically either microcontrollers or digital signal processors (DSP). The important thing characteristic, however, has been focused on handle a specific task, which might require very effective processors. For instance, air traffic control systems may usefully be observed as embedded, while they involve mainframe computers and dedicated regional and national systems between

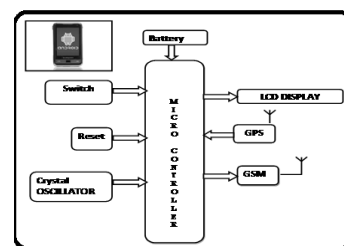
airports and radar sites. Generally, "embedded system" isn't a strictly definable term, since many systems possess some component of extensibility or programmability. The hardware for that product is usually selected to help make the device starting as low as possible. Spending an additional dollar one to make things simpler to program may cost millions. Getting a programmer for an additional month is affordable in contrast. What this means is the programmer must get by with slow processors and occasional memory, yet still time battling an excuse for efficiency not observed in most PC applications [2]. Here is a listing of issues specific towards the embedded field. Among the first recognizably modern embedded systems was the Apollo Guidance Computer, produced by Charles Stark Draper in the Durch Instrumentation Laboratory. In the project's beginning, the Apollo guidance computer was considered the riskiest item within the Apollo project because it employed the then recently developed monolithic integrated circuits to lessen the weight and size. An earlier mass-created embedded system was the Autonetics D-17 guidance computer for that Minuteman missile, released in 1961. It had been constructed from transistor logic coupled with a tough disk for primary memory. Once the Minuteman II entered production in 1966, the D-17 was replaced with a brand new computer which was the very first high-volume utilization of integrated circuits.

## II. PROPOSED METHOD

The current and suggested work explains a good innovative idea for ladies security that has become mandatory now -a-days. The primary blocks of the project are: 1. Micro controller (16F77A), 2. Very oscillator, 3. Controlled power (RPS), 4. Brought indicator, 5. GSM modem, 6. Gps navigation and 7. Liquid Crystal Display. Power is really a way to

obtain electrical energy. A tool or system that supplies electrical or other kinds of energy for an output load or number of loads is known as a power unit or PSU. The word is most generally put on electrical power supplies, less frequently to mechanical ones, and barely to other people [3]. Conversion of 1 type of electrical energy to a different preferred form and current, typically involving converting AC line current to some well-controlled lower-current Electricity for electronics. Low current, low power Electricity power units are generally integrated using the devices they provide, for example computers and household electronics. Brought: An easy-emitting diode (Brought) is really a semiconductor source of light. LEDs are utilized as indicator lamps in lots of devices, and therefore are more and more employed for lighting. Introduced like a practical electronic component in 1962, early LEDs released low-intensity sore point, but modern versions can be found over the visible, ultraviolet and infrared wavelengths, with high brightness. The dwelling from the Brought light is totally different compared to the bulb. Amazingly, the Brought includes an easy and strong structure. The sunshine-emitting semiconductor materials are what determine the LED's color. GSM (Global System for Mobile Communication): Mobile phones make use of a mobile phone service carrier's GSM network by trying to find mobile phone towers within the nearby area. Global system for mobile communication (GSM) is really a globally recognized standard for digital cellular communication. GSM is the a standardization group established in 1982 to produce a common European mobile telephone standard that will formulate specifications for any pan-European mobile cellular radio system operating at 900 MHz. SIM 300 Hardware Descriptions: Created for global market, SIM300 is really a Tri-band GSM/GPRS engine that actually works on frequencies EGSM 900 MHz, DCS 1800 MHz and PCS1900 MHz. SIM300 provides GPRS multi-slot class 10 abilities and offer the GPRS coding schemes CS-1, CS-2, CS-3 and CS-4. Sim Interface: The SIM interface props up functionality from the GSM Phase 1 specs as well as props up functionality from the new GSM Phase 2 specs for FAST 64 kbps SIM (meant for use having a SIM application Tool-package). Both 1.8V and three.0V Sims are supported. The SIM interface is powered from an interior regulator within the module getting nominal current 2.8V. All pins reset as outputs driving low. LCD Interface: SIM300 supplies a serial Liquid crystal display interface that supports serial communication with LCD device. They are composite pins you can use as GPIO ports or Liquid crystal display interface based on the application. When use as LCD interface, the next table may be the pin define. LCD interface timing ought to be u . S . Using the LCD device [4]. ADC:

SIM300 provides one auxiliary ADC (General purpose analog to digital ripper tools.) as current input pin, that you can use to identify the of some exterior products for example current, temperature etc. Network Status Indication Brought Lamp: The PIN 30 around the board-to-board connector may be used to drive a network status indication Brought lamp. Antenna interface: The RF interface comes with an impedance of 50O. To match the physical style of individual applications SIM300 offers two alternatives. Gps: The Gps (Gps navigation) is really a burgeoning technology, which supplies unequalled precision and versatility of positioning for navigation, surveying and GIS data capture. The Gps navigation NAVSTAR (Navigation Satellite timing and Varying Gps) is really a satellite-based navigation, timing and positioning system [6] [7]. The Gps navigation provides continuous three-dimensional positioning 24 hrs each day around the world. Liquid Crystal Display: Probably the most common devices mounted on a micro controller are definitely an Liquid crystal display [5]. Probably the most common LCD's attached to the many microcontrollers are 16x2 and 20x2 displays. What this means is 16 figures per line by 2 lines and 20 figures per line by 2 lines, correspondingly. The work "Security alert and tracking system for ladies by utilizing Aurdino" was created so that the safety at homes could be provided from all over the world using GSM modem linked to cell phone. This project utilizes a Gps navigation which detects the individual once the person cuts the infrared sun rays while passing through it and, a suitable electrical signal is offered as input to microcontroller which transmits an SMS alerting message towards the predefined owner's number [8].



**Fig.1.Block diagram of proposed system**

### III. CONCLUSION

Integrating features of all of the hardware components used happen to be coded in it. Existence of every module continues to be reasoned out and placed carefully, thus adding towards the best working from the unit. Next, using highly advanced IC's with the aid of growing technology, the work continues to be effectively implemented. Thus the work continues to be effectively designed and tested. Within this paper, an inexpensive women tracking system using Gps

navigation and GPRS of GSM network, appropriate for number of applications around the globe. The mixture from the Gps navigation and GPRS provides continuous and real-time tracking. The price is a lot lower when compared with SMS based tracking systems.

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